

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please cancel claims 1-112 without prejudice.

Claims 1-112 (canceled)

Please add following new claims 113-131:

113. (New) A power supply controller, comprising:

a power switch to be coupled between an energy transfer element of a power supply and an input of the power supply;

a control circuit coupled to the power switch and a control terminal of the power supply controller, the control circuit to generate a switching waveform to control the power switch; and

multi-function circuitry coupled between a multi-function terminal of the power supply controller and the control circuit, the switching waveform generated in response to the control terminal and the multi-function terminal.

114. (New) The power supply controller of claim 113 wherein the multi-function circuitry comprises a negative current sensor coupled to the multi-function terminal, the

- - negative current sensor to generate a negative current sense signal in response to the multi-function terminal if a voltage at the multi-function terminal is less than a first voltage, the negative current sensor isolated from the multi-function terminal if the voltage at the multi-function terminal is greater than the first voltage;

115. (New) The power supply controller of claim 114 wherein the multi-function circuitry comprises a positive current sensor coupled to the multi-function terminal, the positive current sensor to generate a positive current sense signal in response to the multi-function terminal if the voltage at the multi-function terminal is greater than a second voltage, the positive current sensor isolated from the multi-function terminal if the voltage at the multi-function terminal is less than the second voltage, wherein the second voltage is greater than the first voltage, the switching waveform generated in response to the negative current sense signal and the positive current sense signal.

116. (New) The power supply controller of claim 113 wherein the multi-function circuitry comprises on/off circuitry coupled to the control circuit and responsive to the multi-function terminal, the on/off circuitry to control the control circuit to start and to stop the switching waveform in response to the multi-function terminal.

117. (New) The power supply controller of claim 113 wherein the multi-function circuitry comprises external current limit adjuster circuitry coupled to the control circuit and responsive to the multi-function terminal, the external current limit adjuster circuitry to control the control circuit to adjust a current limit of the power switch in response to the multi-function terminal.

118. (New) The power supply controller of claim 115 wherein the multi-function circuitry further comprises under-voltage comparator circuitry coupled to receive the positive current sense signal and coupled to the control circuit, the under-voltage comparator circuitry to control the control circuit to start and to stop the switching waveform in response to a current received at the multi-function terminal.

119. (New) The power supply controller of claim 113 wherein the multi-function circuitry comprises over-voltage comparator circuitry coupled to the control circuit and responsive to the multi-function terminal, the over-voltage comparator circuitry to control the control circuit to start and to stop the switching waveform in response to the multi-function terminal.

120. (New) The power supply controller of claim 113 wherein the multi-function circuitry comprises maximum duty cycle adjuster circuitry coupled to the control circuit and responsive to the multi-function terminal, the maximum duty cycle adjuster circuitry to adjust the maximum duty cycle of the switching waveform in response to the multi-function terminal.

121. (New) The power supply controller of claim 113 wherein a voltage at the multi-function terminal is substantially equal to a first constant voltage if there is a negative current flowing through the multi-function terminal.

122. (New) The power supply controller of claim 113 wherein a voltage at the

- - multi-function terminal is substantially equal to a second constant voltage if there is a positive current flowing through the multi-function terminal.

123. (New) The power supply controller of claim 113 wherein the power supply controller is an integrated circuit.

124. (New) The power supply controller of claim 113 wherein the multi-function circuitry provides at least one of current limit adjustment, under-voltage detection, over-voltage detection, maximum duty cycle adjustment and on/off control circuitry in the power supply controller.

125. (New) The power supply controller of claim 124 wherein the multi-function circuitry includes separate circuit blocks to provide each of the at least one of current limit adjustment, under-voltage detection, over-voltage detection, maximum duty cycle adjustment and on/off control circuitry.

126. (New) The power supply controller of claim 124 wherein the at least one of the current limit adjustment, under-voltage detection, over-voltage detection, maximum duty cycle adjustment and on/off control circuitry are adapted to be responsive to a signal at the multi-functional terminal.

127. (New) The power supply controller of claim 113 wherein at least a portion of a plurality of functions provided by the multi-function circuitry are adapted to be implemented during startup operation of the power supply.

128. (New) The power supply controller of claim 113 wherein at least a portion of a plurality of functions provided by the multi-function circuitry are adapted to be implemented during normal operation of the power supply.

129. (New) The power supply controller of claim 113 wherein at least a portion of a plurality of functions provided by the multi-function circuitry are adapted to be implemented during fault conditions in of the power supply.

130. (New) The power supply controller of claim 113 wherein at least a portion of a plurality of functions provided by the multi-function circuitry are adapted to be implemented during standby operation of the power supply.

131. (New) The power supply controller of claim 113 wherein the energy transfer element is a transformer.